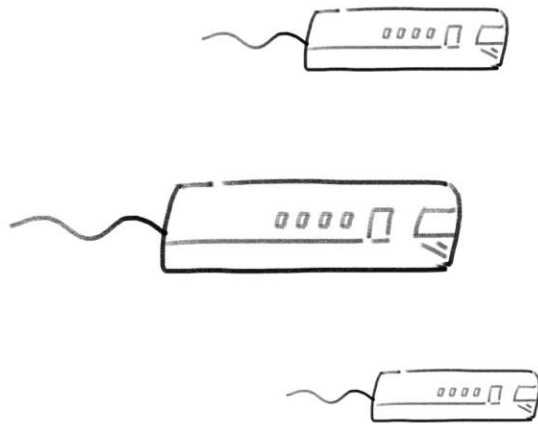


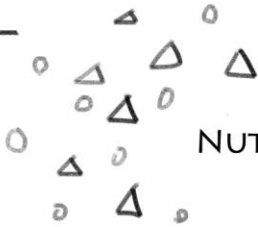
chapter5
Biosafety

E. COLI IS
NOT A
LONELY
INDIVIDUAL



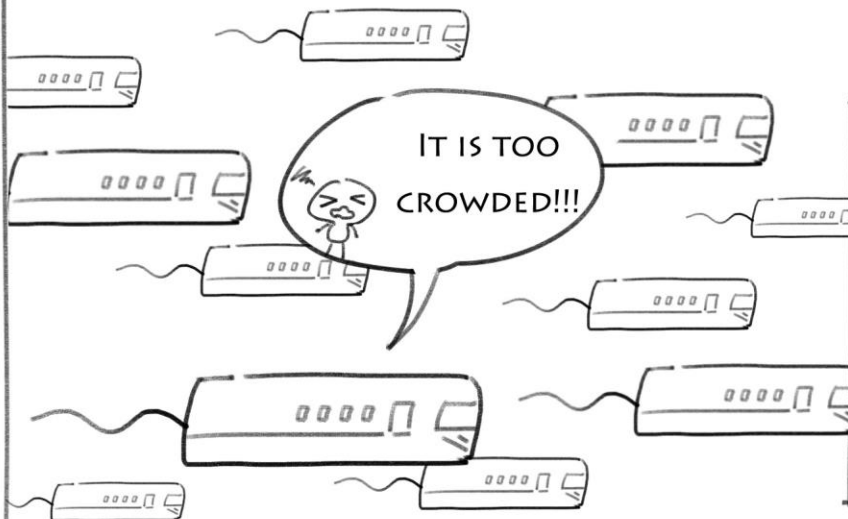
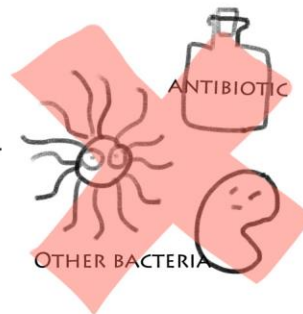
IT HAS A
VERY
EFFICIENT
BREEDING
CAPACITY.

SO, ONCE THE
ENVIRONMENT
IS SUITABLE
FOR
GROWTH.....



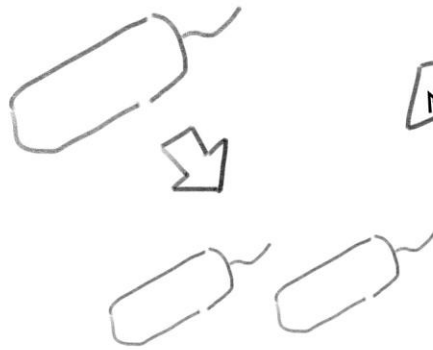
NUTRIENT-RICH

COMPETITIVE PRES-
SURE IS SMALL

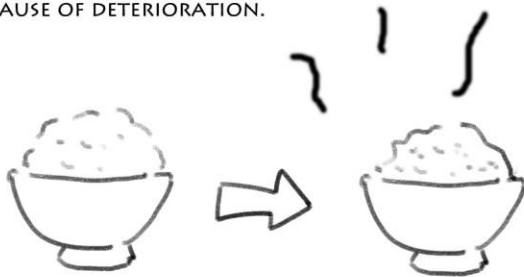


IT WILL
MULTIPLY,
AND BREED A
LOT OF EXACTLY
THE SAME
E. COLI!

E. COLI BREEDING IS DIVIDED INTO TWO, SPLIT TWICE INTO FOUR, SPLIT THREE TIMES WILL BECOME EIGHT, AND SO ON. WHEN IT SPLIT THIRTY TIMES, THERE WILL BE MORE THAN 400 MILLION E. COLI!!!!



E. COLI SPLIT ONCE ONLY NEED 20MIN, AND WHEN BREEDING WILL PRODUCE HARMFUL SUBSTANCES. THIS IS WHY THE FOOD ON THE OUTSIDE FOR A LONG TIME THE CAUSE OF DETERIORATION.



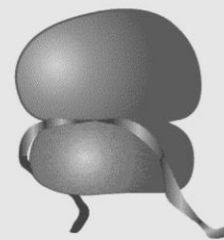
FOOD NUTRIENT-RICH FOR E. COLI AND OTHER MICROORGANISMS ARE SUITABLE FOR THE GROWTH OF THE ENVIRONMENT!

WAIT...IF THAT'S TRUE, WHERE DID WE COME FROM AND WHERE WILL WE GO?



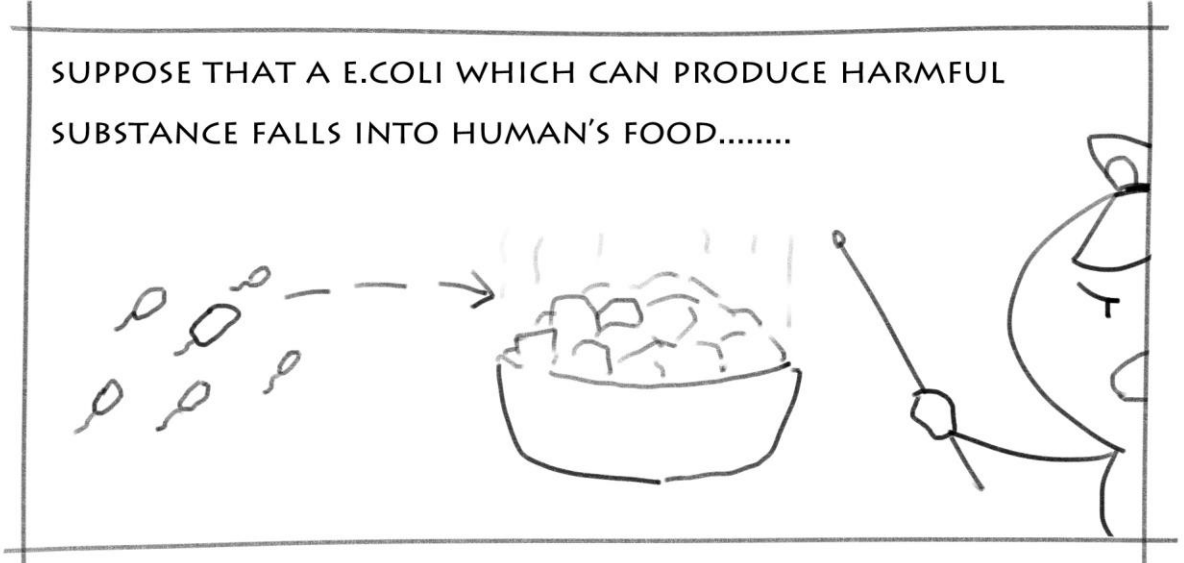
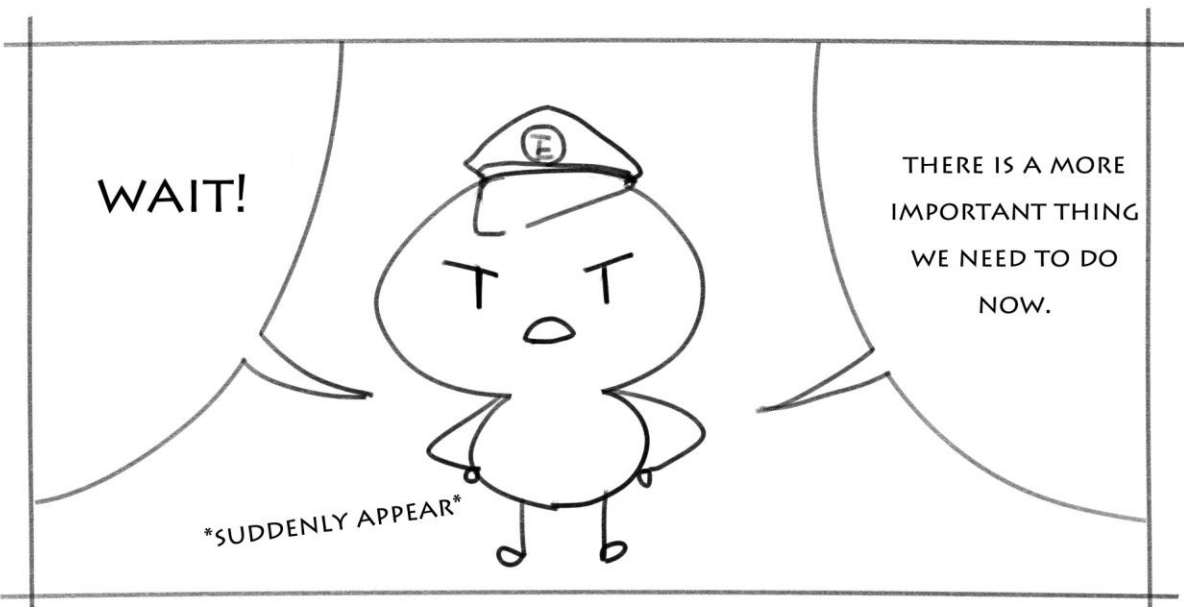
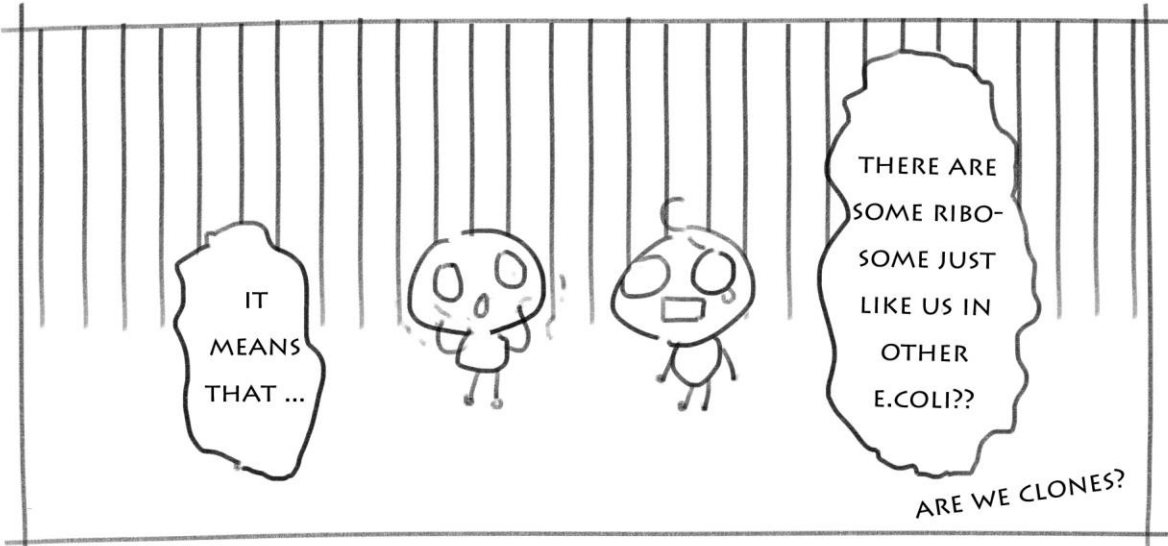
Tip:

RIBOSOME IS A ORGANELLE IN THE CELL, WHICH IS RESPONSIBLE FOR COMPLETING THE PROCESS FROM RNA TO PROTEIN, WHICH IS ALSO CALLED TRANSLATION, SO IT CAN MOVE ON MRNA

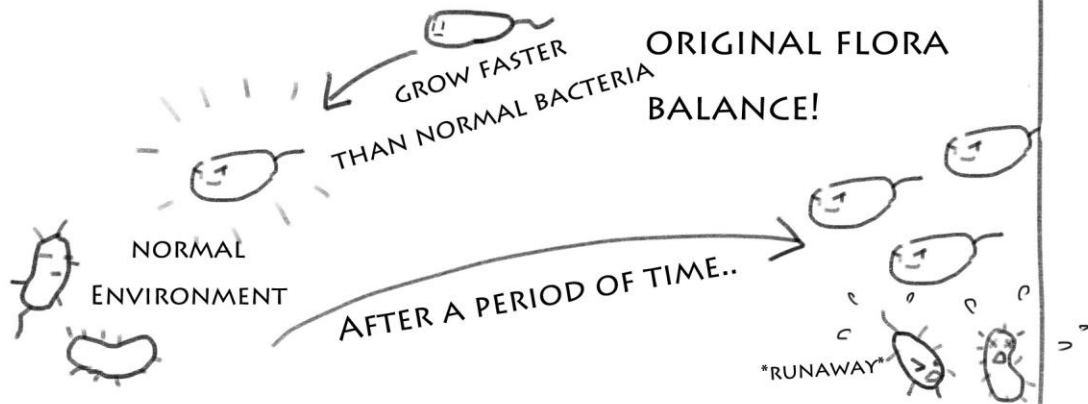


CELL DIVISION IS THE PROLIFERATION PROCESS OF LIVING CELLS DIVISION. IN THIS PROCESS, THE GENE IS COPIED AND PASSED TO THE NEXT CELL, RESULTING TWO CELLS DIVIDED FROM THE SAME PARENT VERY SIMILAR .

RIBOSOMES CONTAIN PROTEINS(TRANSLATED FROM GENES) AND RNA. THEREFORE, THE RIBOSOME FORM TWO CELLS DIVIDED FROM THE SAME PARENT PROBABLY VERY SIMILAR.....



OR SOME BACTERIA WITH SPECIAL FUNCTIONS COME INTO THE NORMAL ENVIRONMENT... MAY DESTROY THE ORIGINAL FLORA BALANCE!



THE FORMER IS TERRIBLE,
BUT THE LATTER IS
NOT TERRIBLE AT ALL!

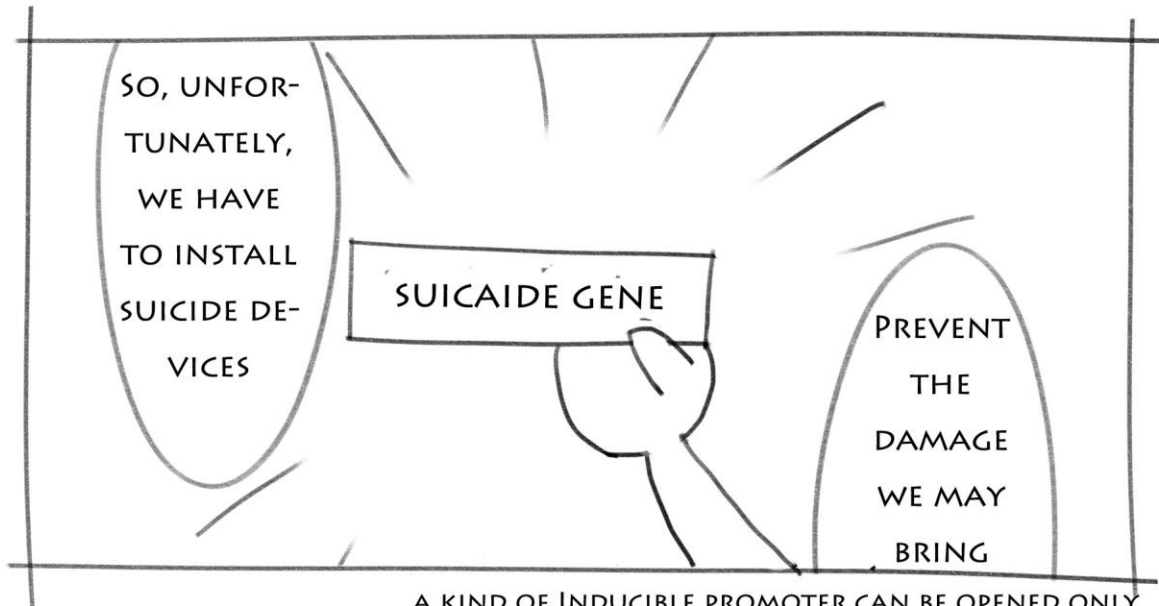


EMM...I'M TRYING TO
EXPLAIN IT TO YOU

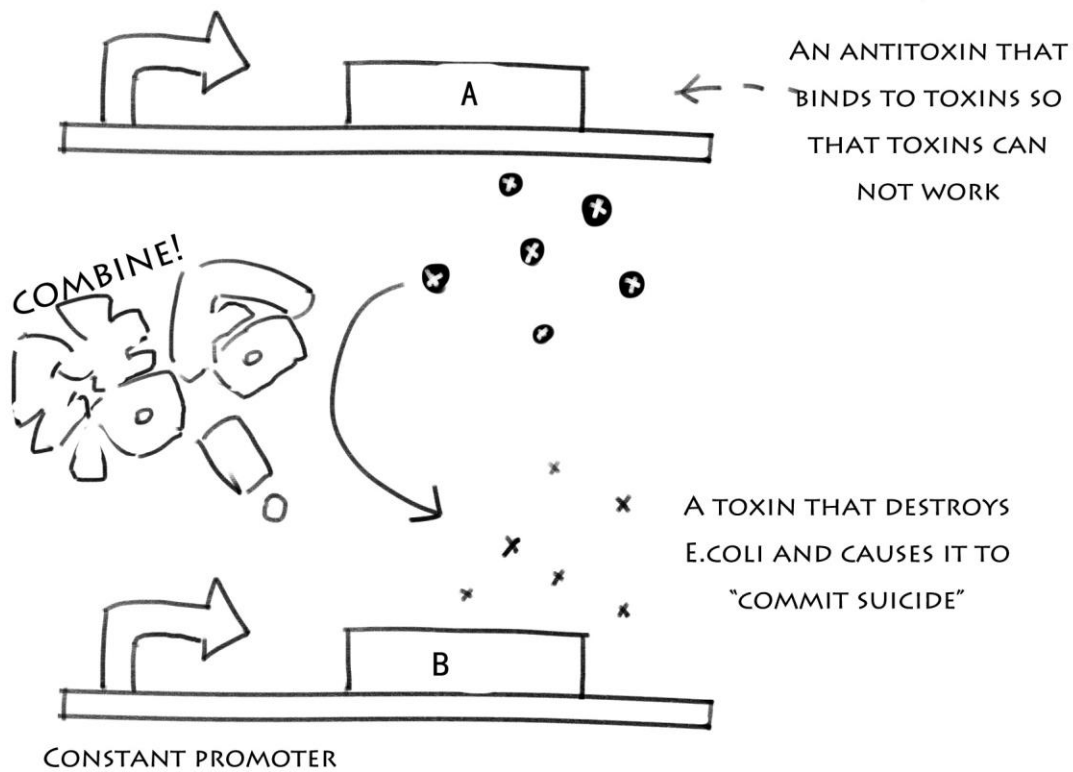


FLORA BALANCE IS VERY COMPLEX, ONCE DYSFUNCTIONAL, IT IS LIKELY TO CHANGE THE WHOLE ENVIRONMENT! FOR EXAMPLE, GASTROINTESTINAL FLORA IMBALANCE AND SOME GASTROINTESTINAL DISEASES ARE CLOSELY RELATED!





A KIND OF INDUCIBLE PROMOTER CAN BE OPENED ONLY IN THE ENVIRONMENT THAT SCIENTISTS ALLOW



SINCE THE TOXIN WILL ALWAYS EXIST, ONLY IN THE PERMITTED ENVIRONMENT, THE ANTITOXIN CAN BE EXPRESSED AND DETOXIFIED.

ONCE LEAVING THE ALLOWED ENVIRONMENT, E. COLI WILL COMMIT SUICIDE
WE FEEL SO SAD.
BUT WE WILL EVEN SADDER IF E. COLI HARMS OTHERS...



SO WE HAVE
TO WORK
HARDER!



LET THE E. COLI
GO IN THE RIGHT
DIRECTION AND
MAKE MORE CON-
TRIBUTIONS TO
SCIENCE!!

大肠杆菌号